

Premature Interoperability/ Standardization



The Standards ... aren't

- The *standards* and *specifications* that are popping around in the SSI / Verifiable Credentials world **are not (fully) usable** yet.
- **Premature Standardization and Premature Interoperability** are currently business problems
 - with solutions...



Where Are Specs/Standards/Code?

- The vocal and visible leaders in the SSI/decentralized identity space are visionaries. They are changing the world. BUT - they have a messaging problem.
- The **Future-Now** problem can be fatal to a project and ecosystem.
- The visionaries see the future - short and long-term - as if it was already in place. The messages they send reflect this.



Future-Now

- KERI - missing pieces for production
- BBS+ - missing predicates
- JSON vice JSON-LD - debate rages



The Future-Now Problem

@darrello
Continuum Loop Inc.



The “Future-Now” Problem

- What is available, in production ready code, ready to deploy right NOW?
- The rest is FUTURE
- But these are blurred constantly
- That is the “Future-Now” problem

NOT NOW = FUTURE



Future-Now

NOT NOW = FUTURE



A horizontal timeline diagram. A thick red bar represents the 'timeline of delivery'. Above the bar, a black double-headed arrow spans the entire length of the bar. Below the left end of the bar, a red arrow points upwards towards the bar, with the word 'NOW' written in red below it.

timeline of delivery

NOW



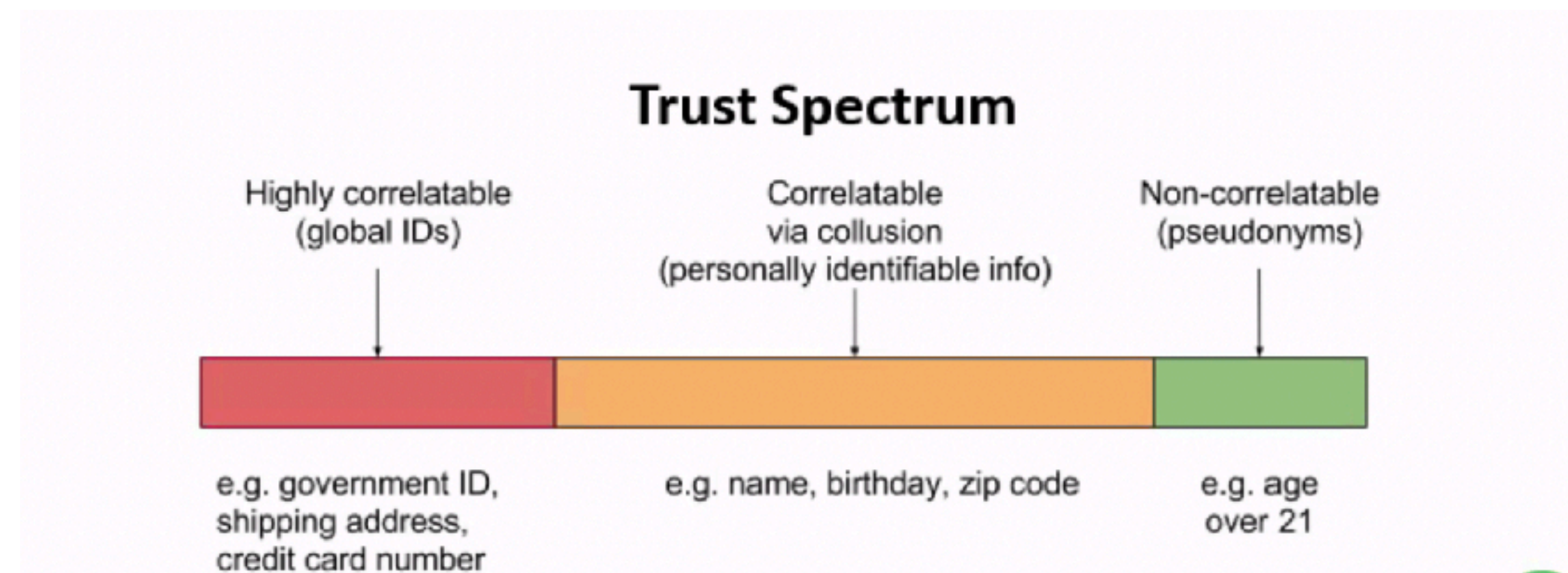
KERI

- Creates a critical capability to allow rotation of keys for a DID
- “can be put anywhere” means (to architects) “I don’t know where to look with any reliability”
- NEEDS - and likely trajectory - EGFs to point at recommended anchors that are broadly available (e.g. HL-Indy ledger, file on server)
- KERI **enables** cross-chain/ledger/database interoperability but does not **create the interoperability itself**.



BBS+

- ISSUES TO RESOLVE:
- JSON / JSON-LD debate (more on that later)
 - Ideal landing place is **JSON not JSON-LD** due to privacy and complexity issues. MORE LATER...
- Predicate Support required by Government (“Are you over 18?”)



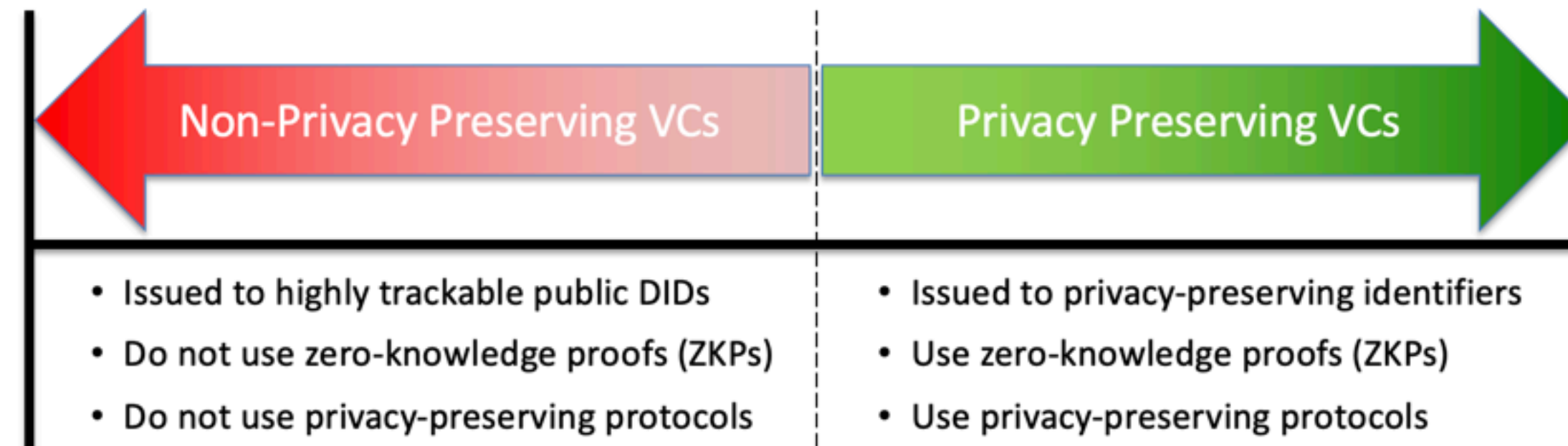
W3C Verifiable Credentials

- Multiple Flavours of Verifiable Credentials
 - Privacy Impacts are large on some (correlation, full disclosure, public DIDs for recipients)
 - Privacy is missing some key capabilities for some use cases - particularly predicates (are you over 18 without sharing date of birth)
- v1.0 rarely works (*http 1.0* didn't win market - v1.1 did)
- W3C v1.0 is a starting point but does not create standardization nor interoperability

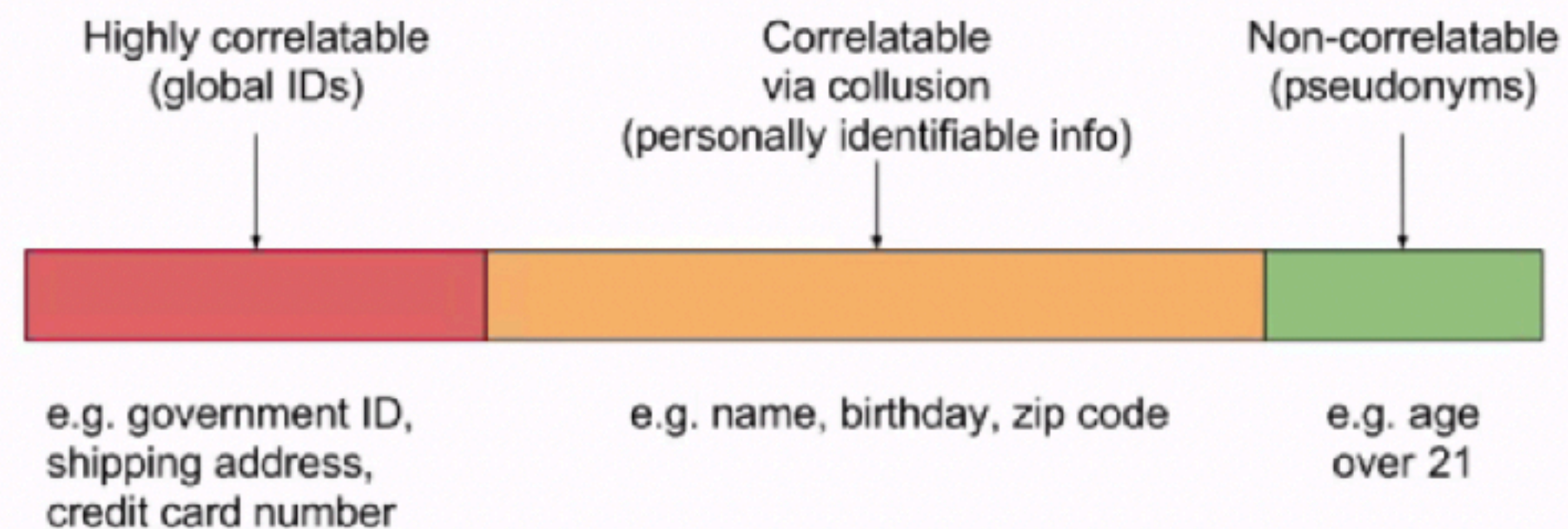


Privacy & Trust Spectrum

The VC "spectrum of privacy"



Trust Spectrum



So What Do We Do?

- Be pragmatic about standards and interoperability
 - They are both destinations that we can head towards
- Don't attempt to control everything - influence instead
 - Participate in standards and specs
 - While working with real solutions that aim towards standardization and interoperability

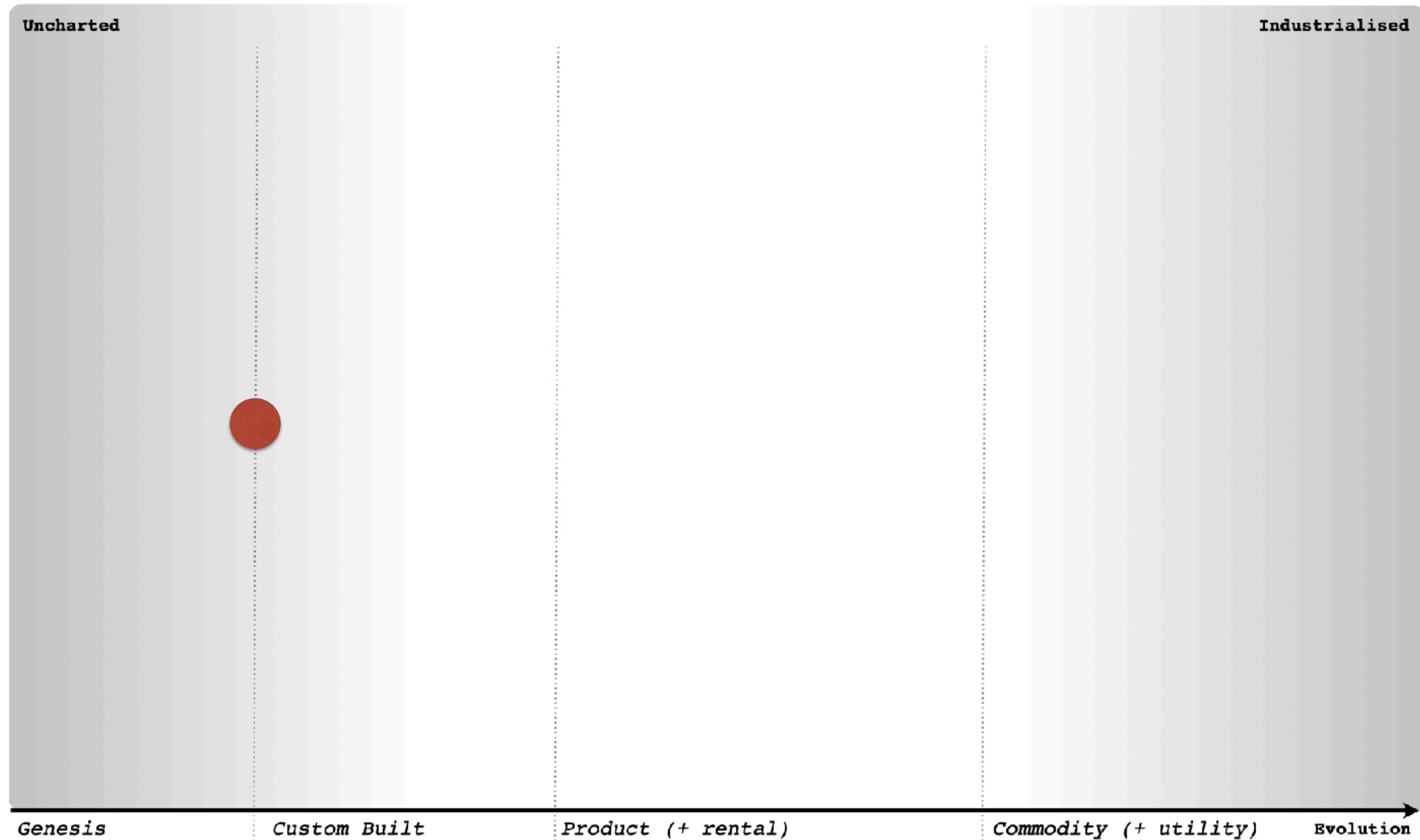


Simon Wardly - Standards & Interoperability

“If something is industrialised and if standards exist then try to use them. There’s always a temptation to build a better standard but avoid this or building abstraction layers on top of other “standards” unless you have an extremely compelling reason to do so. If you need a toaster, buy a toaster and don’t try building one from scratch.”



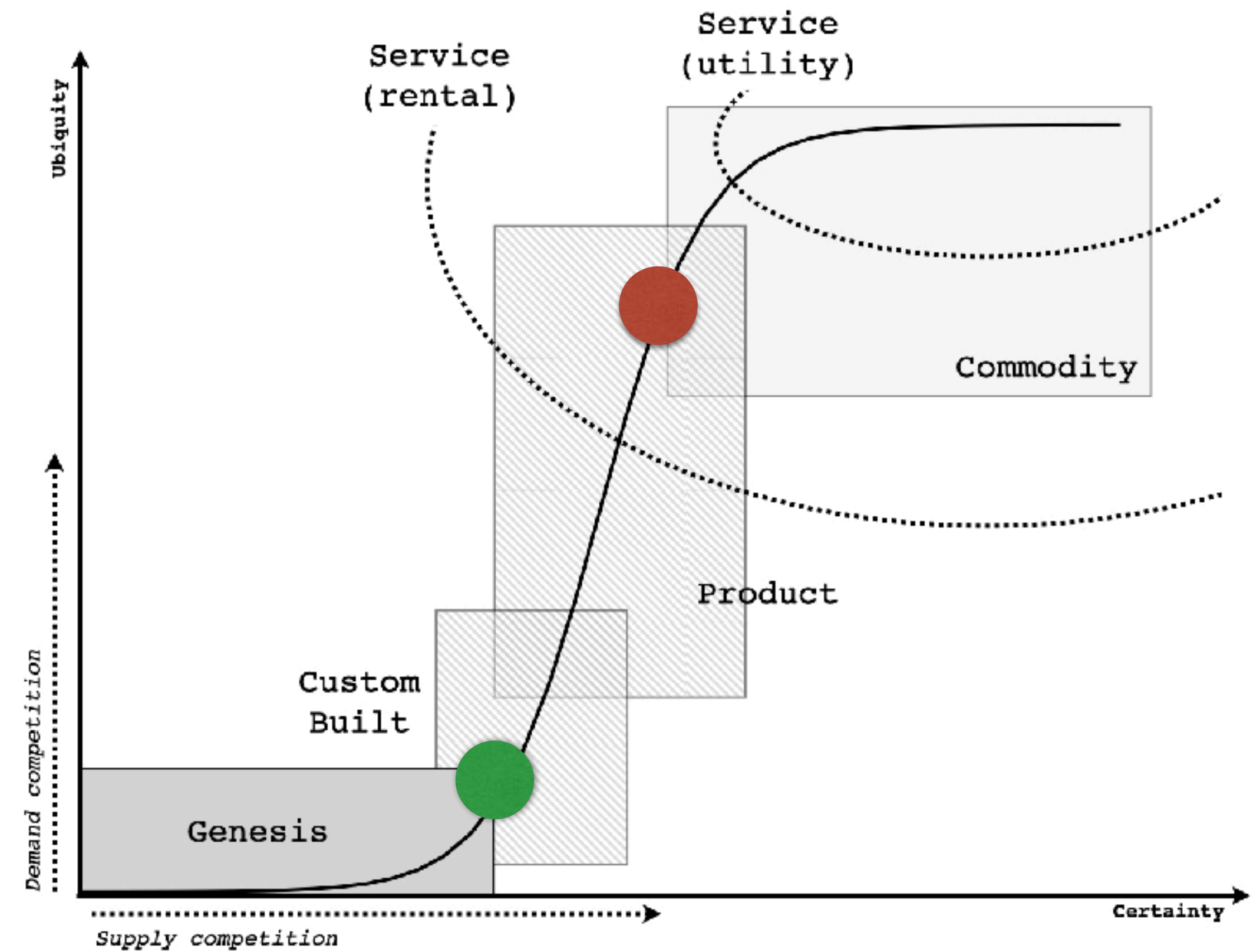
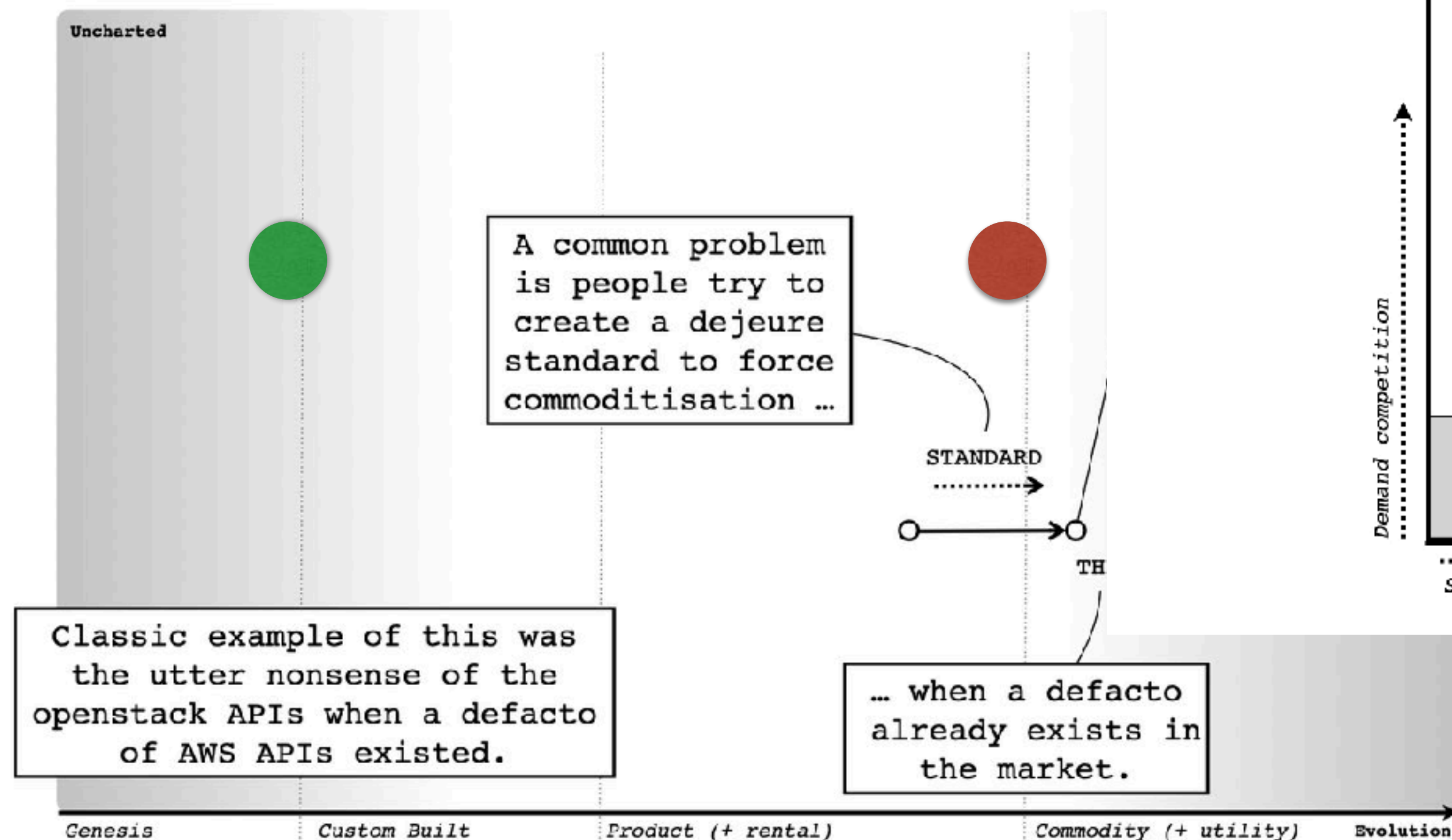
Where Is The Market?



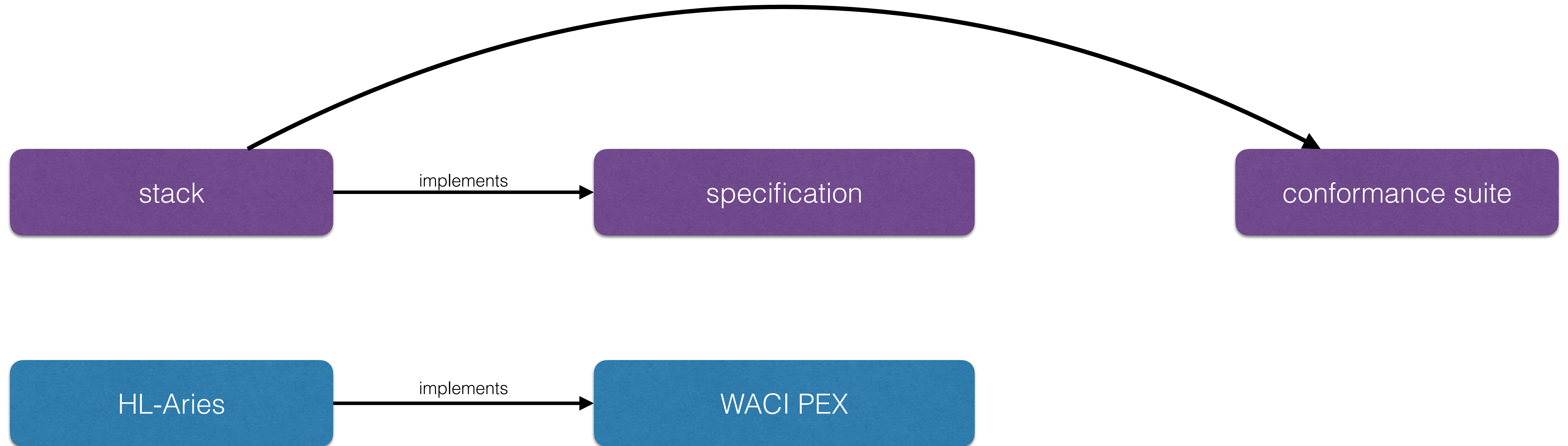
Premature Standardization

We are here

size closer to here...



So, What Do We Do?



Pragmatism - Findy Example

Findy Agency operates using DIDComm messaging and Hyperledger Aries protocols.

The supported verified credential format is currently Hyperledger Indy “Anoncreds” that work with Hyperledger Indy distributed ledger. The plan is to add more credential formats in the future.

- Findy
- <https://findy-network.github.io>



Pragmatism

- Use a Stack that can be shared openly
- Work with like-minded teams
- Let the leaders lead - but help guide them
- **EVOLVE** the proto-Standards/Specifications to get them ready for fomalization



**“There is Only One Narrow Market Adoption Use Case for
JSON-LD: Google SEO”**

–Dr. Sam Smith

[source](#)

System Design Principles

Interoperability layers:

- Security first, always.
- Semantics second, always.



JSON / JSON-LD

"JSON schema has already won this battle; the decentralized identity community just hasn't realized it yet." - Dr. Sam Smith

- JSON will most likely “win the day”

JSON Schema Already Won the Adoption Battle

In stark contrast to schema.org, JSON schema is part of the OpenAPI spec [Swagger Open API](#). As a result, JSON schema is already the de facto web standard for interoperable schema; given its dominant position, it is unreasonable to believe that JSON-LD with schema.org would ever displace it; JSON schema has already won the adoption battle.

This situation is comparable to the XML vs JSON battle. XML is better than JSON as a serialization format in almost every technical way except simplicity and compactness. But because JSON is *good enough* for 99% of the use cases, its simplicity became the deciding feature. JSON won that battle.

Likewise, Linked Data (JSON-LD/RDF/schema.org) may be superior in many ways to JSON plus JSON schema, but JSON schema is already good enough for 99% of the use cases which it already serves, and it is also much simpler. ***JSON schema has already won this battle; the decentralized identity community just hasn't realized it yet.***



“Standards” - more of them

- KERI - great when ready and built-in
- WACI - “standard/specification
 - realized (in time) by HL-Aries

